USDA FOREST SERVICE

RESEARCH NOTE NC-156

NORTH CENTRAL FOREST EXPERIMENT STATION, FOREST SERVICE—U.S. DEPARTMENT OF AGRICULTURE

Folwell Avenue, St. Paul, Minnesota 55101

LIBRARY FILE COPY

PRESCRIBED BURNING IN THE LAKE STATES--1971

ABSTRACT.--Reports the various applications of prescribed burning in the Lake States during 1971. Presents average costs for each purpose and reasons for cost differences.

OXFORD: 436(77):156:232.21. KEY WORDS: wildlife habitat management, site-seedbed preparation, hazard reduction, burning cost, forest management.

Reports indicate that approximately 12,000 acres were prescribed burned in the three Lake States during 1971, a significant decrease from the 19,755 acres burned during 1970 (Sando 1971b). The apparent decrease may be partly due to incomplete reporting. Efforts were made to contact all sources of prescribed burning information but some may have been missed. (Unfortunately, prescribed fires are not reported as systematically as are wildfires.) During 1971 reported burned acreage decreased, but the number of prescribed fires increased, indicating a reduction in the average acreage burned per fire.

Even though reported total acreage decreased, the number of agencies as well as private owners involved in prescribed burning increased in 1971. Of all the agencies, however, only the State of Minnesota and the USDI Bureau of Sport Fisheries and Wildlife have shown a continuing increase in the use of prescribed fire.

Of the total acreage reported, 75 percent was burned for wildlife habitat management; seedbed preparation, site preparation, hazard reduction, and experimental and training burns comprised the remaining 25 percent. Most burning for wildlife habitat improvement took place during April and May; most silvicultural burns were made during the summer months. Hazard-reduction burns, performed chiefly by the USDA Forest Service, were done in April. Approximately 41 percent of the total number of fires were conducted in April and May and 32 percent in August. Although weather conditions deviated from normal in some instances within the Lake States, this did not seem to affect the amount of prescribed burning.

Cost-per-acre values shown (table 1) were computed as in previous yearly fire reports (Sando 1969, 1971a, 1971b). Here the average cost per acre is calculated on a per-fire basis. Tabulations shown in column 4, however, are weighted averages calculated on a per-acre basis. The latter method better represents average cost per acre.

Within the operational fire group, designed to accomplish specific management goals, the costs ranged from $0.24 to $21.60 per acre. As in the past, cost of wildlife habitat fires was generally less per acre. This is due to the large acreage burned per fire and less hazardous fuel. Prescribed silvicultural and hazard-reduction fires generated higher costs because of the increased manpower and equipment used for control. The high cost per acre of training fires reflects the large amount of personnel usually involved in these operations.

Many land managers have expressed the need for increased use of prescribed fire to

Table 1.--*A summary of reported prescribed burns in the Lake States during 1971*

Agency	Purpose	Area burned	Average cost per acre: Weighted by area[1]	Average cost per acre: Unweighted average[2]
		Acres	*Dollars*	*Dollars*
OPERATIONAL BURNS				
Michigan Department of Natural Resources	Wildlife habitat management	360	9.17	9.17
Minnesota Department of Natural Resources	Planting site preparation	589	6.29	12.29
	Seedbed preparation	827	9.11	10.98
	Wildlife habitat management	1,863	4.56	15.27
	Wildlife habitat management	80	(3/)	(3/)
	Hazard reduction	56	(3/)	(3/)
Wisconsin Department of Natural Resources	Planting site preparation	20	21.60	21.60
	Hazard reduction	94	15.11	23.44
USDA Forest Service	Hazard reduction	183	5.96	5.71
	Hazard reduction	2,325	(3/)	(3/)
	Seedbed and/or site preparation	956	(3/)	(3/)
U.S. Bureau of Sport Fisheries & Wildlife	Wildlife habitat management	4,502	0.24	1.43
	Hazard reduction	31	4.92	5.27
Other Department of the Interior agencies	Seedbed preparation	40	2.50	2.50
	Wildlife habitat management	66	2.03	2.46
Private owner	Wildlife habitat management	120	2.80	2.80
Total		12,112		
EXPERIMENTAL AND TRAINING BURNS				
Minnesota Department of Natural Resources	Maple-sprouting experiment	29	6.78	6.78
	Training & seedbed preparation	2	28.75	28.75
	Training & planting site preparation	6	53.33	53.33
Grand total		12,149		

1/ Using computational method: total burning cost ÷ total acres burned.
2/ Using computational method: total burning cost ÷ total number of fires.
3/ Costs not reported.

accomplish particular management objectives, such as wildlife habitat improvement, and a rising trend is evident in the number of burns conducted. This may indicate a tacit public acceptance of prescribed use of fire for land management.

As experience with prescribed fire increases, reduced costs and better smoke management result. Education of the public to the characteristics and uses of prescribed fire may further increase its acceptance as a relatively inexpensive, natural, management tool.

LITERATURE CITED

Sando, Rodney W. 1969. The current status of prescribed burning in the Lake States. USDA For. Serv. Res. Note NC-81, 2 p. North Cent. For. Exp. Stn., St. Paul, Minn.

Sando, Rodney W. 1971a. A summary of prescribed burning done in Minnesota and Wisconsin during 1969. USDA For. Serv. Res. Note NC-107, 2 p. North Cent. For. Exp. Stn., St. Paul, Minn.

Sando, Rodney W. 1971b. A summary of prescribed burning done in the Lake States during 1970. USDA For. Serv. Res. Note NC-125, 2 p. North Cent. For. Exp. Stn., St. Paul, Minn.

LINDA R. DONOCHUE
Forestry Technician--Fire
East Lansing, Michigan
(Office maintained in cooperation with Michigan State University)